

ABSTRACT

1 0 A plurality of audio inputs which require gain applied are coupled
together, the gain is applied and that weighted signal is summed with the
output of similar circuits running with different gains. For typical overall
gain requirements of 0 to +22.5 dB to be applied in 1.5 dB increments, the new
circuit reduces by over two-thirds the number of analog switches required in
1 5 the level adjusting portion of an audio mixer. More generally, the complexity
of the new circuit, in terms of the number of analog switching elements is
 $2m(1 + \log_2 n)$ for m channels with n gain steps/channel. The number of
stages of differing gain is reduced from $2m$ variable gain amplifiers to $2(1 + \log_2 n)$ fixed gain amplifiers.